

Calculate DC loop resistance

Use **Procedure 2** to calculate the DC loop resistance.

Procedure 2

- 1 Calculate the DC loop resistance by adding the resistance of each cable section. Calculate the resistance of each cable section by using the following formula (cable resistances are given in **Table 1**):

$$LR_i = CR_i \times SL_i$$

where:

LR_i = DC resistance for cable section i

CR_i = conductor resistance per unit length for the cable section i

SL_i = length of cable section i

- 2 Add the total of all cable sections. If the total of all sections exceeds 175 ohm, select another loop.

Note: The loop resistance limit of 175 ohm must be reduced by 1 ohm for each percent of the loop that is aerial cable (see **Table 1**).

Table 1
Conductor resistance per unit

Gauge	Ohm per loop kft	Ohm per loop km
26	83	278
24	52	173
22	33	109
19	16	54